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NEW RECORD OF *GUDUSIA VARIEGATA* (DAY, 1869) (CLUPIEDAE: TELEOSTEII) FROM (SINDH) PAKISTAN

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Abstract

Gudusia variegata a fresh water clupied, has been recorded for the first time in Pakistan from Kinjhar Lake (Distt: Thatta) Sindh. The morphometric features of this fish have been compared with sympatric species of the same family. Gudusia chapra. Marked differences have been found in length, girth, and anal fin. This new record extends the geographical distribution of G.variegata upto the western limits of Indian sub-continent.

Introduction

Isolated reports are available regarding the fresh water fish fauna of Pakistan (Qureshi, 1965 and Mirza 1975, 1980). A list of 35 fishes belonging to 10 families, recorded from Manchar Lake (Distt: Dadu) was published by Prashad and Mukerji (1930). Similarly Siddiqui, *et al.*, (1973) provided a check-list of 46 species of fish from Kinjhar (Kalri) Lake (Distt: Thatta). Recently Jafri (1997) has recorded 31 species of fish from Bakar Lakes complex of proposed Chotiari reservior (Distt: Sanghar).

All the above reports have recorded only one species of family *clupiedae, Gudusia chapra*. Here, we are presenting the new record of *Gudusia variegata* from (Sindh) Pakistan.

Synonymy

1869	*Clupea variegata* (Day) Fish India, Proc. Zool. Soc, P.623.
1968:	*Gudusia godanahiai* (Srivastava) Fishes of Eastern Uterpardesh, P.6, Fig. 4.
1971:	*Gudusia variegata*. (Talwar and White head) Bull. Brit. Mus. Nat. Hist. 22 (2): 59 - 85.

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1981: *Gudusia variegata* (Jayram) Hand book. Fresh water fish of India, P.40.

Local names in India = Tikulia, Suhia

Local name in Pakistan = Palli

Material examined

The fish for this study were collected from Kinjhar Lake Distt. Thatta during September-November 1997. 101 specimens of *G.variegata* and 350 specimens of G. chapra were collected from fisherman's catch and were brought to the laboratory for morphometric counts.

Rsults

These results compriseds of observations and morphometric measurements of 101 specimens of *Gudusia variegata*, which have been compared with 350 specimens of G.chapra (Table. I).

(a) Colour

Silvery white, 8-10 black vertical bars present on the dorsal side of the body, one black humoral spot (Fig. I). No black bars present in *G.chapra*.

(b) Morphology

Body laterally much compressed, abdomen serreted with distinct scutes, abdominal profile (Girth) more convex than. *G.chapra* (Table. I).

Length - Girth relationship:

Calculated with least square methods, the equations of both the species are as under:

G.variegata = $\text{Log } G = -0.5 + 1.28 \times \log L$

G. chapra = $\text{Log } G = -0.2 + 1.0 \times \log L$

Mouth terminal, slightly superior in position, teeth absent on Jaws, gape of the mouth reaches upto middle of eye orbit.

Anal fin rays and length higher in *G. variegata* (Table. I)

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Fig. 1 *Gudusia variegata*, Palli (upper) and Gudusia chara, Palri (lower).

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Morphometry

Length - frequency distribution

Length frequency distribution indicates dominant size group of 13 - 14 cm total length, it consitute 71% of the total catch.

Relative condition factor (Kn) was found to be satisfactory.

$$Kn = 1.02 - 1.07$$

Length - weight relationship

When plotted on log basis gave the following equation

$$\text{Log } w = -1.5 + 2.50 \times \log L$$

This indicates satisfactory growth of *G. variegata* in Kinjhar Lake.

Remarks

1. *G. variegata* and *G. chapra* are sympatric species collected from Kinjhar Lake. *G. chapra* is more abundant in catches.
2. Colour differentiation between the two species is so distinct that there can be no confussion regarding the indentification.
3. Both species are not generally edible in this area and are sold as trash fish. Some fresh catch is consumed by local fishermen.
4. Day (1889) considered G. variegata as of Burmese origin, while Munshi, Srivastava (1988) studies the specimens from U.P, Bihar and Assam (India). Present study extends the range of G. variegata upto (Sindh) Pakistan.

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Table, I.

Shows the morphometric comparision of *G. variegata* and *G. chapra*

S. No	Measurements	*Gudusia Varigata*	*Gudusia chapra*
1	Total length	12.5 - 15.5	8.8 - 16.6
2	Fork length	10.6 - 13.5	6.9 - 14.6
3	Weight gms	18.7 - 35.0	5.10 - 42.0
4	Girth	8.8 - 10.5	5.5 - 10.5
5	Eye diameter	0.9 - 1.0	0.9 - 1.0
6	Head length	3.5-4.0	3.5-4.0
7	Dorsal fin rays count	12 - 14	12 - 14
8	Dorsal fin length	2.0 - 2.5	2.0 - 2.5
9	Pectoral fin rays count	12 - 14	12 - 14
10	Pectoral fin length	0.5 - 0.8	0.5 - 0.8
11	Pelvic fin rays count	5 - 6	5 - 6
12	Pelvic fin length	0.2 - 0.3	0.2 - 0.3
13	Anal fin rays count	22 - 24	20 - 22
14	Anal fin length	2.3 - 2.5	2.2 - 2.3
15	Scutes = Pre Pelvic	17	17
	Post Pelvic	10	11
16	Colour	Silvery white with 8 - 10 vertical black bars.	Silvery white without black bars

Discussion:

Earlier workers on systemmatics of fresh water fish founa of Pakistan (Mirza, 1975 and Ahmed et al 1976, Sheri et al 1980; and Mirza, 1990) have recorded only one species of family *clupeidae* Gudusia chapra. We have report another species of same family, Gaudusia variegata, first recorded in India by Day, (1878).

Morphometric and Meristic comparision of two sympatric species, G. variegata and G. chapra shows distinctive feature as girth, length of

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anal fin and number of anal fin rays. The presence of G. variegata has been recorded for the first time from Pakistan.

Day (1889) recorded *Clupea* variegata from river Irrawaddi and its branches and thought that it is the Burmese representative of *Clupea chapra.* Similarly Munshi and Srivastava (1988) while working on natural history and systemetics of fishes of India, have studied many species of G. variegata, all collected from Assam, Bihar and Bengal.

Published reports on fresh water fishes of Punjab, (Mirza and Sharif, 1996), Azad Kashmir (Rafique and Qureshi, 1997, N.W.F.P (Butt, 1986), Balochistan (Mirza, 1972) and Sindh (Siddiqui et al 1973, Ahmed and Khan, 1974 and Jafri, 1997) have not found *G. variegata* any where in Pakistan. Present report on the occurrence of *Gudusia variegata* from (Sindh) Pakistan extends the geographical distributiuon of this species right accross Penisular India upto southern limits of Pakistan.

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